trographs along with the party, suitable for recording the coronal spectrum, hoping that the pressure of other work will not prevent their use. W. W. CAMPBELL.

A List of Eight New Spectroscopic Binaries.

The following eight spectroscopic binaries, discovered with the Mills spectrograph, are additional to the seventeen already announced in these *Publications*:—

12 Persei ($\alpha = 2^h\ 36^m$; $\delta = +\ 39^\circ\ 46'$).

The binary character of this star was discovered in January, from the second spectrogram. The spectra of both components are visible on the first three plates, and are not very unlike. On the last plate the two spectra appear to be coincident.

Date.		Velocities.
1899	Dec. 19	-42^{km} and $\pm\ 0^{km}$
1900	Jan. 22	$-\ 3$ " $-\ 54$
	Jan. 26	$-\ 11$ " $-\ 43$
	Aug. 7	$-\ 27$

The velocity of the system is about —— 25 km per second.

ξ Ursæ majoris ($\alpha = 11^h\ 13^m$; $\delta = +\ 32^\circ\ 06'$).

The principal component of this well-known double star has a variable velocity in the line of sight. *ξ Ursæ majoris* is therefore a triple system. The visible system is interesting historically, as having been the first one to show orbital motion, the two visible components forming a close and rapidly revolving system ($a = 2''.5$, $P = 60$ years). It has been observed with the micrometer very frequently since the beginning of the century, but no evidences of perturbative influences have been revealed by the measurements.

Date.		Velocity.
1897	Feb. 23	$-\ 8.4^{km}$
	April 8	$-\ 15$
1899	Feb. 22	$-\ 11.5$
	April 5	$-\ 14.1$
1900	Feb. 26	$-\ 21.9$
	Mar. 9	$-\ 18.4$
	Mar. 12	$-\ 19$
	Mar. 14	$-\ 21.6$
	Mar. 20	$-\ 20$
	May 8	$-\ 18$

The variable velocity was discovered early in March, from the fifth plate.

The spectrograms obtained in 1897 are rather poor, and will probably not be needed in the final discussion of the motion.

93 Leonis ($\alpha = 11^h\ 43^m$; $\delta = +\ 20°\ 46'$).

The first two plates of this star were underexposed, but the discordance of eight kilometers afforded strong suspicion of its variable velocity. Two late plates confirmed the fact of its variability.

Date.		Velocity.
1900	Jan. 10	+ 22km
	Jan. 16	+ 14 ±
	April 9	− 16
	May 14	+ 16

d Boötis ($\alpha = 14^h\ 06^m$; $\delta = +\ 25°\ 34'$).

Date.		Velocity.
1900	Mar. 27	+ 79km
	April 4	+ 3
	April 9	+ 11
	April 17	+ 60 ±

The variable velocity was discovered from the second plate.

β Scuti ($\alpha = 18^h\ 42^m$; $\delta = -\ 4°\ 51'$).

Date.		Velocity.
1899	May 15	− 17km
	June 11	− 11
1900	April 17	− 28
	April 23	− 29
	May 14	− 32
	July 18	− 31

The variable velocity was discovered from the third plate.

113 Herculis ($\alpha = 18^h\ 50^m$; $\delta = +\ 22°\ 32'$).

Date.		Velocity.
1900	June 5	− 35km
	July 9	− 21
	July 17	− 19
	July 31	− 16

The variation was discovered from the second plate.

2 Scuti ($\alpha = 18^h\ 37^m$; $\delta = -\ 9°\ 09'$).

Date.		Velocity.
1899	June 14	− 49km
	June 19	− 50
	July 3	− 45
1900	June 27	− 40
	July 3	− 38
	Aug. 1	− 49
	Aug. 12	− 38

The lines in this star's spectrum are rather broad, and cannot be measured very accurately. In addition, the third plate was underexposed; and the range of five kilometers in the approximate results for the first three plates afforded only a slight suspicion of variability. Its reality was established from the fourth plate.

η Andromedæ ($\alpha = 0^h\ 52^m$; $\delta = +\ 22^\circ\ 52'$).

Two components seem to be visible in the spectrograms of this star. The results for the principal components are:—

Date.		Velocity.
1899	Oct. 24	$-\ 25^{km}$
	Oct. 31	$-\ 26$
1900	July 24	$-\ 12$
	Aug. 8	$+\ 2$
	Sept. 9	$-\ 2$

The two component spectra appear to be practically coincident in the spectrogram of 1900, July 24th.

Mr. WRIGHT was in charge of the work with the Mills spectrograph during my connection with the Crocker Eclipse Expedition to Georgia, from March to late in July. While following the regular programme of observation, he detected the variable velocities of the stars *ξ Ursæ majoris*, *d Boötis*, *β Scuti*, *113 Herculis*, and *2 Scuti*, as described above; and the credit for these five discoveries belongs to him. W. W. CAMPBELL.

SOLAR PARALLAX OBSERVATIONS MADE AT THE LICK OBSERVATORY.

Observations of the planet *Eros* and of reference-stars, for determining the solar parallax, have been secured at the Lick Observatory, as follows:—

Astronomer R. H. TUCKER, assisted by Mr. R. T. CRAWFORD, Fellow in Astronomy, obtained two meridian-circle observations of each of the 319 reference-stars forming the first list in the Bulletin (No. 4) of the Conférence Astrophotographique Internationale. There have been made 1,100 observations in completing this list, including fundamental and circumpolar stars and nadirs. The reductions were completed, and the manuscript giving the results was ready for the printer, on December 21, 1900.

Mr. TUCKER has secured two observations of each of the 352 stars forming the second Conférence list. The completion of the second list has required about one thousand observations. The